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| EXAMINER | |
|---|---|
| FICK, ANTHONY D | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/606,204 | CONGER, STEVEN | |
| | Examiner | Art Unit | |
| | Anthony Fick | 1753 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8-13,16,19 and 20* is/are rejected.

7)☒ Claim(s) *6,7,14,15,17 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 5, 8 through 10, 12, 13, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Dorison et al. (U.S. 5,478,407).

Dorison discloses an apparatus and method of shading surfaces with photovoltaic elements on the shading material. Figure 5 shows the shading material with the solar cells supported.

Regarding claim 1, the points in figure 5, 12, 13 and 14, correspond to supports or columns. Points 12 are high column points, and points 14 are low column points (column 5, paragraph 5). Thus the figure shows two pairs of columns, a first cable suspended between the first columns, cable between columns 12 and 12, a second cable suspended between the second columns, cable that runs from column 14 to column 14 through column 13, and a plurality of panel receivers each adapted for receiving a number of solar panels, cable netting nodes 16, the nodes being secured to each of the two cables by the cross cables in the netting and the nodes each receiving a number of panels, either multiple modules 20d, or each module 20'd contains multiple solar panels.

Regarding claim 2, Dorison discloses that the first columns are at a higher point than the second columns (column 5, paragraph 5) thus the first columns are relatively long and the second columns are relatively short.

Regarding claim 4, figure 5 shows a center support column, column 13, attached to the second cable between the pairs of columns.

Regarding claim 5, figure 5 further shows stability cable coupled between the first column and the second column, cable between columns 12 and 14.

Regarding claim 8, figures 6 and 7 show multiple systems with cables from columns of each system coupling to columns of other systems.

Regarding claim 9, the points in figure 5, 12, 13 and 14, correspond to supports or columns. Points 12 are high column points, and points 14 are low column points (column 5, paragraph 5). Thus the figure shows two pairs of columns, a first cable suspended between the first columns, cable between columns 12 and 12, a second cable suspended between the second columns, cable that runs from column 14 to column 14 through column 13, and a plurality of panel receivers each adapted for receiving a number of solar panels, cable netting nodes 16, the nodes being secured to each of the two cables by the cross cables in the netting and the nodes each receiving a number of panels, either multiple modules 20d, or each module 20'd contains multiple solar panels. Dorison discloses the apparatus is useful for shading surfaces or areas in particular for shading spaces which can be negotiated on foot (column 1, paragraph 2) thus the columns are tall enough to allow an activity beneath and the cables long enough to allow an activity between the columns.

Regarding claim 10, Dorison discloses that the first columns are at a higher point than the second columns (column 5, paragraph 5) thus the first columns are relatively long and the second columns are relatively short.

Regarding claim 12, figure 5 shows a center support column, column 13, attached to the second cable between the pairs of columns.

Regarding claim 13, figure 5 further shows stability cable coupled between the first column and the second column, cable between columns 12 and 14.

Regarding claim 16, the points in figure 5, 12, 13 and 14, correspond to supports or columns and are anchor points for the cables. Points 12 are high column points, and points 14 are low column points (column 5, paragraph 5). Thus the figure shows four anchor points, a first cable suspended between the first and second anchor points, cable between columns 12 and 12, a second cable suspended between the third and fourth anchor points, cable that runs from column 14 to column 14 through column 13, and a plurality of panel receivers each adapted for receiving a number of solar panels, cable netting nodes 16, the nodes being secured to each of the two cables by the cross cables in the netting and the nodes each receiving a number of panels, either multiple modules 20d, or each module 20'd contains multiple solar panels.

Regarding claim 19, figure 7 shows a method of supporting a solar panel array by providing two parallel support cables that support a plurality of solar panel receivers adapted to receive a solar panel and securing the receiver to the cables (column 6, paragraphs 1, 2 and 3).

3. Claims 1, 3, 9, 11, 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Stein (EP 0373234).

Stein discloses a solar panel array structure.

Regarding claim 1, figures 5 and 6 show a system for supporting an array comprising two pairs of columns, a first cable suspended between the first columns, a second cable suspended between the second columns, a plurality of receivers each receiving a number of solar panels and secured to each of the cables.

Regarding claim 3, the figures further show an anchoring device, 5, secured to the ground outside the columns, wherein at least one of the cables is secured to the anchoring device via the tie line.

Regarding claim 9, figures 5 and 6 show a system for supporting an array comprising two pairs of columns, a first cable suspended between the first columns, a second cable suspended between the second columns, at least two receivers each receiving a number of solar panels and secured to each of the cables. Stein also discloses the generator exhibits a simple structure (abstract) and therefore the columns are tall enough and cables long enough to allow some activity beneath.

Regarding claim 11, the figures further show an anchoring device, 5, secured to the ground outside the columns, wherein at least one of the cables is secured to the anchoring device via the tie line.

Regarding claim 16, figures 5 and 6 show a system for supporting an array comprising four anchor points, the top of each tower, a first cable suspended between the first and second points, a second cable suspended between the third and fourth

points, a plurality of receivers each receiving a number of solar panels and secured to each of the cables.

Regarding claim 19, Stein discloses a method of supporting a solar panel array as shown in figure 5. The method provides a first cable and a second cable, disposing the cables such that they are generally parallel, providing a plurality of receivers each receiving a number of solar panels and the cables, and securing each receiver to each of the cables.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorison as applied to claims 1, 2, 4, 5, 8 through 10, 12, 13, 16 and 19 above, and further in view of Stein (EP 0373234).

The disclosure of Dorison is as stated above for claims 1, 2, 4, 5, 8 through 10, 12, 13, 16 and 19.

The difference between Dorison and claims 3 and 11 is the requirement of an anchoring device secured to the ground.

Stein teaches a solar generator using solar panels attached to cables and columns. As shown in figures 5 and 6, Stein teaches using anchoring cables and anchoring devices secured to the ground, 5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the anchoring devices of Stein with the device of Dorison because the anchoring devices are well known within the art to improve the stability of a system and reduce stress on the columns. Because Stein and Dorison are both concerned with photovoltaic systems on cables, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 3 and 11.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dorison as applied to claims 1, 2, 4, 5, 8 through 10, 12, 13, 16 and 19 above, and further in view of Shingleton et al. (U:S.P.G.Pub 2005/0109384).

The disclosure of Dorison is as stated above for claims 1, 2, 4, 5, 8 through 10, 12, 13, 16 and 19.

The difference between Dorison and claim 20 is the requirement of a mister operated by electricity generated from the solar panel array to generate a cooling effect in the sheltered space.

Shingleton teaches a modular shade system with solar panels. The shade system has a photovoltaic array to collect electricity (paragraph 0019) and also can contain a number of other elements for space cooling; spray misters, fans and pumps (paragraph 0020).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the spray misters of Shingleton within the system of Dorison because the misters provide additional space cooling (Shingleton paragraph

0020). Also it would have been further obvious to one of ordinary skill in the art at the time the invention was made to utilize the electricity produced from the solar cells to power the misters because utilizing the available solar power for the cooling device eliminates the necessity of another source of power. Because Shingleton and Dorison are both concerned with shade systems, one would have a reasonable expectation of success from the combination. Thus the combination meets the claim.

***Allowable Subject Matter***

7. Claims 6, 7, 14, 15, 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the claims all require a specific configuration for the panel receivers including curved struts and horizontal struts. The panel receivers of Dorison are just junction points of the netting and the receivers of Stein are simply flat panels. While the configuration in the claims is similar to prior art structures for satellites, ground based or roof based solar cell panels, it would not be obvious to utilize these sturdy and heavy structures within systems like Dorison or Stein. The cable systems benefit from solar panels or receivers that are more flexible and lightweight to reduce the structural requirements of the cables or the towers. Therefore the use of such structured receivers as in the present invention with cable systems is not obvious over the prior art.

***Response to Arguments***

9. Applicant's arguments with respect to claims 1, 9, 19 and 20 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed February 28, 2007 in regards to claims 3 and 11 have been fully considered but they are not persuasive. Applicant argues that the rejection does not address how or why one would remove the netting or sheathing suggested by Dorison and a *prima facie* case of obviousness has not been established. The examiner respectfully disagrees. As stated above, the reference to Dorison discloses a system for shading surfaces with cables supported by columns. The reference to Stein shows a ground anchor useful for stabilizing cables between columns that are supporting solar panels. The combination of the two references does not require removal of the netting or sheathing of Dorison, just attachment of a ground anchor to one or a plurality of the outer cables of the device of Dorison to help stabilize the shading structure against disturbances such as wind. Therefore the rejection is maintained.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Fick whose telephone number is (571) 272-6393. The examiner can normally be reached on Monday - Friday 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony Fick AOF
AU 1753
May 10, 2007

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